

The impact of transportation on agricultural production in a developing country: a case of kolanut production in Nigeria

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Abstract: Transport is regarded as a crucial factor in improving agricultural productivity. It enhances quality of life of the people, creates market for agricultural produce, facilitates interaction among geographical and economic regions and opened up new areas to economic focus.

This paper therefore looks critically at the crucial role transportation plays in Kolanut production in Nigeria. A total of 100 respondents were randomly selected and interviewed which represent 20% of the registered Kolanut farmers in Remo land, Ogun state with 40% of the respondents from Sagamu local government area and 30% each from Ikenne and Remo North local government areas respectively while the data collected were analysed using descriptive statistics such as Tables of frequencies and percentage distributions.

This study revealed that an improved transportation will encourage farmers to work harder in the rural areas for increased production, add value to their products, reduce spoilage and wastage, empower the farmers as well as having positive impact on their productivity, income, employment and reduce poverty level in the rural areas since it will be easier to move inputs and workers to farm as well as products to markets and agro-allied industry.

Key words: Transportation, Agricultural Production, Kolanut product

INTRODUCTION

Agricultural production is very important to the economy of developing nations as a whole and Nigeria in particular. It is the major occupation of the inhabitants and people of the country while it provides employment directly or indirectly for at least 60% of the people in Ogun State according to Aihonsu (1992). Most of the rural dwellers are traditional peasants, whose individual contribution is insignificant but collectively form an important bed - rock for economy of the state which represent 90% of food and fibre produced in Nigeria. The major agricultural products found in the area are cash crops like cocoa, kola-nut, rubber, palm-oil,

citrus trees and the arable crops such as yam, maize, cassava, rice, coco-yam, sugar-cane and melon to mention a few. These products serve as food for man and raw materials for agro-allied industries within and outside the state while they also provide revenue to farmers and generate foreign exchange to the government.

Despite the fact that Nigeria is basically an agrarian nation and the majority of the goods to be transported are mostly agricultural products which according to Igben (1977) are by nature often bulky, low-priced, highly perishable. They must be conveyed from their area of production to their zone of consumption with minimum delay and

cost, as well as widely dispersed over the available land area (Upton, 1988). It therefore requires a correspondingly wide-spread transport net-work to take produce from farm to market. Ajiboye (1995) observed that inadequate supply and high cost of food stuff is as a result of inefficient transportation and distribution. Inadequate transport provision leads to the total waste of 25% of the total agricultural foodstuff produced (Olajide, 1972). Idachaba (1980) in his study of food production problems in the rural areas contended that transportation among other factors represents the most serious constraint to agricultural product and development in Nigeria.

The role of transport is very crucial. It is a phase in production process which is not complete until the commodity is in the hands of the final consumers (Adefolalu, 1977). Availability of transport facilities is a critical investment factor that stimulates economic growth through increased accessibility, its efficiency and effectiveness (Ajiboye, 1994). All affects the basic function of production, distribution, marketing and consumption in many ways. Transportation also influences the cost of commodity consumed and the purchasing power of the consumers.

It is therefore against this background that an attempt is made in this paper to examine in depth how the transport situation in the study area affects agricultural products with emphasis on Kolanut production.

Kolanut as a cash crop

Kolanut is generally believed to be indigenous to West Africa and is of more than forty varieties of which four are commonly and widely cultivated and edible (Lovely, 1980). These are 'Cola acuminata', 'Cola nitida', 'Cola vertiaillata'

and 'Cola anomala'. Only the first three have relevance for kola trade in Nigeria.

There are two major types of Kolanut in Remo land namely Cola 'nitida'- (kola of commerce), otherwise referred to as 'gbanja/ goro nuts' and 'Cola acuminata'(kola of social and traditional significance) known as 'abata nuts'. Nigeria produces about 120,000 tonnes of Kolanut annually according to Komolafe *et al* (1970) and Ajiboye (1995), they are mostly found in the south-western region of the country, covering Ogun, Ondo, Oyo, Osun and Lagos State. Kolanut contains about 2 percent caffeine and is chewed by many people as stimulant while it is also used in the manufacture of dyes and cola group of beverage drinks such as Coca-cola, Pepsi-cola, Afri-cola, Sena-cola to mention a few. A substantial quantity is exported to other African countries as well as to Europe and North America which generate the necessary foreign exchange earning to the government (Akinbode, 1982). It also employs a greater percentage of the people as Kolanut farmers, assemblers-processors, bulking agents, wholesaler, exporters, importers and retailers.

METHODOLOGY

Study area - Remoland is one of the four major divisions of Ogun State, Nigeria with population of 427,058 (FGN) and it is made up of three local government areas which are Ikenne with 113,735 people and Remo North with 59,911 in population while Sagamu is with population figures of 253,412 respectively according to Federal Government of Nigeria Gazettee (2007).

It is a semi-urban area with an urban population of about 64% according to Ajiboye and

Olaogun (2006). Among the major settlements in the study area are Sagamu, Iperu, Isara which are designated as urban by the Ogun State government in 1988 while other prominent ones include Ikenne, Ilishan, Ogere, Ode-Remo, Akaka, Irolu, Ilara, Ode-Lerno, Ewu-Osi, Ewu-Ode and Ipara.

The area is bounded in the east by Odogbolu and Ijebu-North local government areas, in the north by Oyo State, in the south by Lagos State and in the West by Obafemi/Owode and Ifo Local Government Areas. It has an absolute location of latitude 6° and 7° north of the Equator and longitude 2°45 and 4° east of Greenwich meridian and a land area of 97,298.34 hectares. It is one of the areas that occupy a strategic position in Ogun State being that it is situated midway between west and east.

The study area is an important commercial and industrial area. Apart from agriculture a considerable number of people of Remoland have shown interest in trading especially kolanut trading. There are 20 daily, periodic and night markets in the land which serves as outlets for agricultural produce and other goods from within and outside. Prominent of these markets are Sabo-Ofin, Awolowo, Falawo and Oja Oba in Sagamu, Ifepade, and Magbon in Isara, Aketan in Iperu while Sabo-Ofin market is the largest market noted for kolanut and general goods merchandise according to Ajiboye (1995).

The availability of infrastructural facilities such as pipe borne water, electricity, telephone, postal services and good network of roads at the major towns encourage the industrial and general development of the Remo land. A lot of the urban inhabitants are mostly engaged in non agricultural activities such as business and commerce, black

and gold smith, tailoring, wood and steels works, mat and basket weaving and cloth weaving etc. Furthermore, there are some industrial establishments which are urban based. This includes the West African Portland Cement Company (WAPCO), Pipeline and Products Marketing Company (PPMC) Limited, Masimi, Sagamu.

Road transport is the most predominant mode of transportation in Remoland and this is a confirmation of the crucial role transport plays in the socio-economic development of a nation, be it developed or developing, rural and urban especially in the movement of people, goods and services, Jegede (1992) further said that road transport has the most complex network, covers a wide range, physically convenient, highly flexible and usually the most operationally suitable and readily available means of movement of goods and passenger traffic over short, medium and long distances in Ogun State.

The method of investigation for this study was essentially both descriptive and analytical in nature. One hundred respondents were selected using the random sampling method which represents 20% of the registered Kolanut farmers in Remoland with 40% from Sagamu local government area and 30% each from Ikenne and Remo North local government areas while hundred percent return rate was recorded. The questionnaire sought information on the socio-economic characteristics of the respondents, the type and quality of production and frequency of modes of transportation used and the effects of transport on Kolanut production. Data collected were analysed using descriptive statistics such as Tables of frequencies and percentages.

The respondents are Kolanut farmers, either on full time or part-time basis as some of them produce Kolanut along with some other crops such as cocoa, cassava, cocoyam, maize, melon and yam as well as some vegetable plants. Fifty-eight percent of the respondents said they do produce the commercial type of 'gbanja' kolanut only and another 26% of them specialise in producing social type of Kolanut "Abata/Gidi" while the remaining 16% indicated that they produce both varieties of the crop.

The farmers were also asked about the length of period they have been engaged in farming with more emphasis on Kolanut production. The responses were grouped into five classes namely below 5, 6-10, 11-15, 16-20 and above 20 years. From Table 1 below 6%, 15%, 18%, 26% and 35% of the respondents are in the above categories and the minimum year recorded is 1 year while the maximum year recorded is 45 years. This revealed that majority of them are experienced Kolanut farmers with 77% spending above 10 years in the production of the crop.

As for the reasons given by the respondents for producing Kolanut, 32% of them produce strictly for commercial reason, 18% for consumption only, 13% for social and traditional reasons and 37% of the respondents produce because of the three reasons put together. From the field survey, it was discovered that some Kolanut farms are meant for the communities and their Kings "Oko Oba" and the Kolanut from such a farm are often not for sale but rather used for entertaining, social and ritual purposes. These types of farms are common at Makun, Ewu-Osi, Irolu and Ilishan among others.

The quantity of Kolanut production by each farmer varies from one farm to another and from one season to another and these are based on so many variables such as the climatic and physical conditions, availability of transport and market facilities, disease and pest infections, the size of the farms and their maintenance, farm inputs and seedlings as well as the labour supply. Some 4% of the respondents claimed that they do produce above 5 tonnes, 33% produce between 100-1000kg while the rest 7% claimed that they only produce less than 100kg of Kolanut per annum. On the farm size, this tallies with the level of production. Those with Kolanut farms above one hectare produce more than a tonne of kolanut while those with small holdings produce less than a tonne annually.

The mode of transportation often used in transporting Kolanut from the source to destination was also identified through the information supplied by the farmers. The means of transportation identified as being available and mostly used in the study area are head portorage, bicycle, motor-cycle, taxi, public transport (pick-up van and buses) and Lorries as shown in Table 1. From this Table, it shows that the most available means of transport for Kolanut from one place to another is head portorage being the most predominant means of conveyance of Kolanut. It could be seen from the Table that 67% of the respondents use head portorage as a dependable means of transport to carry Kolanut from one place to another. This is explained by the relative short distance from the place of origin to the destination, relatively scarce vehicles and the high cost of transport. The use of foot and head portorage decreases as the farmers move from the farms to

the divisional headquarters which are relatively longer in distance.

Motor cycle usage followed head porterage with 11% of the sampled farmers. This is attributed to the introduction of motorcycle as a mode of public transportation in Nigeria including the rural areas as well as its low fuel consumption, low maintenance costs and its high flexibility. Bicycle haulage come next with percentage of 10% and this was followed up by public transport (i.e. buses and pick-up van), taxi and lorry with 6%, 5% and 1% respectively. In the rural areas where vehicles are found and used, they only ply the roads on the market days and/or on the periodic days while on ordinary days traffic is generally very light and the

frequency of patronage is often reduced to zero during the rainy season.

The distance covered by the Kolanut farmers from their farms to the nearest motorable roads and their houses to farms and markets were also analysed. On the distance between their farms and the nearest motorable roads, 84% of the respondents as shown in Table 2 have their farms within a radius of 0-3kms and above. The Table also shows that the more the distance the farm is to a motorable road the fewer the people who would want such a land to farm and this is in consonance with the finding of Ogundana (1972) and Ajiboye (1994).

Table 1: Available and Mostly Used Means of Transportation

Type Of Trip	Lorries	Public Transport	Taxis	Motor-Cycle	Bicycle	Head Porterage	Total
Farm to Farm	-	-	-	-	3	97	100
Farm to Farmstead	-	-	-	1	7	92	100
Farm to Village	-	-	-	3	12	85	100
Farmstead to Village	-	1	2	5	15	77	100
Village to Village	2	5	5	14	15	59	100
Village to Town	3	15	10	20	12	40	100
Town to Headquarter	1	21	18	32	10	18	100
Total	6	42	35	75	74	468	700
Percentage	1%	6%	5%	11%	10%	67%	100
Mean	1	6	5	11	10	67	

Table 2: Distances Involved in Point-To-Point Transportation of Kolanut from the farms

Distance	Farm to Motorable Road %	Farm to House %	Farm to Market %
Below 1km	21	10	12
1-2 kms	21	12	20
2-3 kms	42	35	22
3-4 kms	13	31	17
4-5 kms	2	8	15
Above 5 kms	1	4	14
Total	100	100	100

Source: Adopted from Ajiboye (1995), Ajiboye and Olaogun (2006)

From the Table above, the distance covered by the farmers on the daily journey to farm

from their various houses were shown. Only 57% of the respondents have their farms within the radius of 0-3kms and 31% covered an average distance of 3 to 4kms before reaching their farms, 8% of them covered 4 to 5kms and the remaining 4% have their farms located at least 5kms from home. By the time they trekked to their various farms (see Table 1.2) they have become exhausted as explained by the respondents while more precious time and energy are wasted and lost which could have been used for other meaningful activities.

Furthermore, Table 3 also shows the distance covered by the farmers to get their products to the markets and collecting centres. Fifty-four percent of the respondents have the market within the radius of 0-3kms and 17% cover an average distance of 3-4kms to their respective farms while about 29% have a distance of above 4kms before they could dispose of their kolanut product.

Easy accessibility and mobility are some of the variables to determine the level of development in a given environment according to Mabogunje (1971). But from the sampled farmers, many of them complained about the distance they have to cover, the hours/time and amount spent daily in getting to farms and markets in order to farm, buy farm inputs and implements as well as sell their kolanuts. Forty-four percent of them concluded that their farms and markets are far (Above 3kms) and 28.5% are close by (2-3kms) to their houses and the remaining 17% said they are very close.

From the analysis, it was discovered that a large percentage of the respondents trekked to and from their farms everyday and even when the facilities are available, many of them could not afford it because of their low income. However, some privileged ones among them go to their farms on bicycles, motor cycles and on public transport. However, the cost of transporting the farmers and their products are considerably high and increasing everyday according to the respondents. For instance, an average of N100 is paid as fare per kilometer of road. However 32% of them said they paid as much as N50 for transporting themselves only to and from their farms per day and 48% agreed that they paid as much as between N100-N200 to and from their farms while 16% of them

paid as much as N200 and above and the remaining 4% declined to make any comment on the fare.

On the transportation of kolanut per tonnage, 40% of the respondents confirmed that they pay between N200 and N1000, 54% pay between N1000 and N1500 and remaining 6% pay above N1500. Ajiboye and Ayantoyinbo (2009) observed that the factor responsible for disparity of prices varies from one community to another and from one farmer to another. However, the following are issues raised by the respondents, vis-à-vis the poor condition of the roads which make some places inaccessible, high fuel price, high price for acquiring new or fairly used vehicles which resulted in inadequate supply of transport facilities, periodic availability of vehicles on some roads, high cost of spare-parts and maintenance.

The respondents also confirmed the general belief that transportation has an effect on the production level of the farmers as well as the price of the crops. Thirty percent of the respondents very much agreed that the above statement is true, another 48% mentioned they agreed, 20% slightly agreed and the remaining 2% do not agree at all. This further shows the importance of transportation in agricultural development. If there are no good transport facilities, the farmers would not be able to produce more since they would not be quite sure of how they would evacuate the products from their farms and the price of the little available crops in the markets would be very high as many people would not be able to afford it. Similarly, it would affect the health of the citizenry, the production level of the agro-based industries as well as the general economy.

The frequency and methods of selling of kolanut by the farmers were also focused upon.

The response given by 48% of the respondents was that they sell their kolanut on daily basis, 20% sell theirs on seasonal basis, 18% on weekly basis, while the remaining 9% and 5% of the respondents sell on monthly and quarterly basis respectively. However, it is generally believed that the best period for a farmer to sell kolanut is between May and July before the harvesting of kolanut which commences in late July to September of each year. On the mode of selling, 40% of the respondents said they sell through the middlemen that come around and visit the farmers at their farms and homes and buy the processed nuts, while another 35% of them sell their own products at the specialised kolanut markets. Another 13% indicated they always take their kolanuts to the urban market (Sabo, Sagamu) to sell while the last group of respondents which make up the remaining 12% indicated they sell their fresh unprocessed nuts directly on the farm and home to the itinerant female assemblers who later sell to the local consumers and these conclude a three link channel as identified by Onakomaiya (1975). The majority of the kolanut farmers that sell their products on the farm indicate reasons for this which is to minimise transportation cost and problem involved in trying to process the kolanuts.

The farmers gave their opinion on the issue that inadequate transportation facilities have a negative effect on the production and price charged on kolanut. Some 72% of the respondents believed that an improvement on the road condition among other factors can motivate them to grow more kolanut and this in essence will mean more improvement in transport services and will also attract more buyers into the region as well as possible higher profit margins for the kolanut.

However, 28% of the sampled farmers were in contrary on the ground that there are other factors to be put in place such as the enlargement of the farm size, prompt maintenance of the farm and control of pest and diseases.

The views of the respondents on the ways the improvement on road condition can benefit them most were also analysed. It could be observed from Table 3 below that 42% of the respondents believed that an improvement in the condition of the road will help them have easier access to markets for their kolanut, 27% believed that it would help their crop to attract higher prices by increasing the demand, 7% believed that it will help them to have easier accessibility to farms, 3% was of the opinion that it will help to reduce damaged and spoilage of crops before getting to the markets while 21% of them believed that it will help to reduce majority of the problems they have been having in their farm work.

TABLE 3: Respondents View on the Ways the Improvement on Road Condition can benefit the farmers

Benefits	Percentage
Easier access to farm	7
Easier access to market	42
Product to attract higher price	27
Reduce spoilage on crops	3
All of the above points	21
Total	100

CONCLUSION

Transport plays a significant role in the structure of food production and marketing and that easy transport to market can make all the difference in the level of rural incomes. From the analysis, it could be deduced that an improved transportation will encourage farmers to work harder in the rural areas for increased production, add value to their products, reduce spoilage and wastage, empower the farmers as well as having

positive impact on the productivity, income, employment level and reduce poverty level in the rural areas. Finally, transport is also seen as a facilitating factor in the mobilisation of the farmers and other allied workers in the overall national development of the nations.

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